

### **ABSTRACT OF THE DISCLOSURE**

A system and method for protecting an output transistor in an audio amplifier output stage includes a protection circuit that protects the output transistor from excessive currents and voltages, and does not interfere with  
5 the normal operation of the output transistor. The protection circuit generates an estimate of the power dissipated by the output transistor, applies this estimate to an electrical analog of the thermal time constants of the transistor to obtain an estimate of the temperature differential between junction and case, compares this differential to a limit, which is a function of  
10 transistor case temperature.